

## REMARKS

In the Final Office Action dated February 1, 2010:

- Claim 9 was rejected under 35 USC § 103(a) as obvious over Yajima '048 (machine translation of JP 11230048) in view of Kawata (U.S. Pat. No. 6,932,353);
- Claims 5 and 10-12 were rejected under 35 USC § 103(a) as obvious over Yajima '048 in view of Kawata and further in view of Sutter (US 2002/0157815);
- Claims 6 and 7 were rejected under 35 USC § 103(a) as obvious over Yajima in view of Kawata and Sutter and further in view of Kawano (U.S. Pat. No. 6,258,167); and
- Claim 8 was rejected under 35 USC § 103(a) as obvious over Yajima in view of Kawata, Sutter, and Kawano and further in view of Fedulov (J. Mining Sci., 15:54-65, 1979).

Claim 9 is amended to incorporate canceled claims 10-12. No new matter is added. Claims 5-9 are pending. An Expert Declaration is submitted herewith in response to the contentions made in the Final Office Action, and in the Advisory Action.

Claim 9 was rejected under 35 USC § 103(a) as obvious over Yajima '048 (machine translation of JP 11230048) in view of Kawata (U.S. Pat. No. 6,932,353). The rejection is improper because the combination of references fails to teach or suggest each and every recitation of amended claim 9.

The Examiner conceded that neither Yajima '048, nor Kawata, "expressly suggested" the recitations of amended claim 9. See Advisory Action, para. 2. However, the Examiner asserted, "Kawata teaches the advantages of providing a heat exchanger along the entire flow path of the dispensed chemical". See id. (emphasis added). Applicant respectfully submits that the Examiner has presented a classic case, not of *prima facie* obviousness, but rather of long felt need. In response to that need, as recognized by the Examiner, Applicant has reduced the claimed invention to practice. Thus, even if the cited prior art

sufficed to establish a *prima facie* case of obviousness, the objective evidence tends to demonstrate that the claimed invention was not obvious when it was made.

However, the cited prior art does not establish a *prima facie* case of obviousness. In particular, the cited references, taken together, do not teach or suggest providing a nozzle assembly, in which a pump, a nozzle body, a primary-side valve for opening/closing a primary-side chemical flow path, and a secondary-side valve for opening/closing a secondary-side chemical flow path are provided, as recited by amended claim 9.

The Examiner argued that simply making the components of an apparatus integral to an assembly does not distinguish the integrated assembly, and cited to MPEP 2144.04(V) "making integral". See Advisory Action par. 1. However, MPEP 2144.04(V)(B) "making integral" and (C) "making separable" merely treat inventions wherein a bolted assembly is made into a weldment, or vice-versa. MPEP 2144.04(V)(A)-(E) simply do not address inventions wherein formerly far-flung components are brought together into an integral assembly.

The most apposite MPEP guidance may be found in MPEP 2144.04(VI)(C) "rearrangement of parts", where it is clearly stated "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (BPAI 1984) (emphasis added). By contrast, the Expert Declaration submitted herewith clearly explains why one of ordinary skill in the art, without benefit of the instant written description, would be motivated to keep a pump and its motor far separated from a chemical liquid dispensing nozzle, contrary to the recitations of amended claim 9.

For at least the above reasons, the cited prior art, lacking any “express suggestion” to supplement or modify the ordinary skill at the time of the claimed invention, fails to render amended claim 9 obvious.

Additionally, the cited references, taken together, do not teach or suggest a pump having an elastically deformable and tube-shaped flexible film forming a pump room, whose one end communicates with a primary-side chemical liquid flow path communicating with the chemical liquid tank and whose other end communicates with a secondary-side chemical liquid flow path communicating with the nozzle body, wherein when the flexible film expands the volume of the pump room, the chemical liquid in the chemical liquid tank is sucked into the pump room, and when the flexible film shrinks the volume of the pump room, the chemical liquid in the pump room is dispensed to the nozzle body, and a temperature control water flow path formed in the pump, as further recited by amended claim 9.

The Examiner asserted that the pump taught by Yajima '048 could still function “within a heat exchanger”. See Advisory Action par. 3. However, that is not what is recited by amended claim 9. Instead, amended claim 9 specifically recites a temperature control water flow path formed in the pump.

With reference to the recitations of amended claim 9, the Examiner previously suggested that Yajima '048 could be modified so that “the flexible tube (21) is disposed within [Kawata's] double tube”. Final Office Action par. 5. However, as better explained in the Expert Declaration submitted herewith, using the flexible tube of Yajima '048 as the inner tube of Kawata's double-tube heat exchanger would mean that the incompressible medium of Yajima '048 would be the heat exchange fluid flowing through the outer tube. This would in turn require that the incompressible medium would have to be pumped, and subjected to heating and cooling.

Heating and cooling a pumped incompressible medium requires provision of a surge tank to accommodate thermal expansion and contraction.

Providing a surge tank for Yajima '048 incompressible medium would provide a place for the incompressible medium to go when acted upon by a piston, such that the incompressible medium would not be constrained to act upon the Yajima '048 flexible tube. In other words, using the incompressible medium as a heat exchange fluid would render Yajima '048 inoperable as a pump.

In summary, the Examiner still has not explained how Yajima '048 could be modified to meet the recitations of amended claim 9, without reliance on the teachings of the instant written description. Skidmore is not helpful in this regard, as Skidmore's teachings are limited to a meshed-screw pump that does not use an incompressible medium to drive a flexible film.

For at least the above additional reasons, the cited prior art fails to render amended claim 9 obvious.

At least because claims 5-8 depend from claim 9, the prior art also fails to render these dependent claims obvious.

#### Conclusion

Having distinguished claims 5-9 from the cited prior art, Applicant requests that the Examiner withdraw the rejections of claims 5-9 and pass the pending claims to issue. However, if the Examiner should believe that any issues remain unresolved to prevent allowance of the claims presented herein, Applicant respectfully invites the Examiner to contact Applicant's Attorneys at the below telephone number for prompt resolution of such issues.

Applicant hereby petitions for a two (2) month extension of time to respond to the present Final Office Action. Attorneys for Applicant hereby authorize the Commissioner to charge the two (2) month extension fee of \$490 to the Deposit Account 13-0235.

Application Serial No.: 10/593,607  
Final Office Action dated: February 1, 2010  
Request for Continued Examination dated: June 22, 2010

Applicant believes no other fees are due in connection with this Amendment and Response. If any additional fees are deemed necessary, Applicant's Attorneys hereby authorize the Commissioner to deduct such fees from our Deposit Account 13-0235.

Respectfully submitted,

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